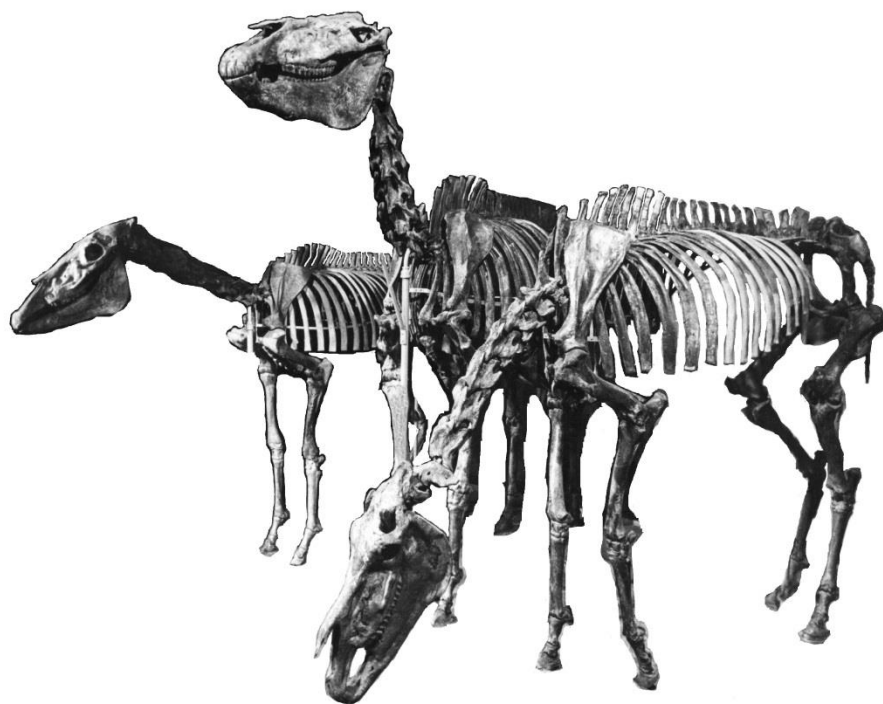




**Hagerman Fossil Beds National Monument
Long-Range Interpretive Plan
September 2016**



Prepared by
Department of the Interior
National Park Service

Hagerman Fossil Beds
National Monument

Pacific West Region

Harpers Ferry Center
Interpretive Planning

Plan Highlights

During the next five to seven years, Hagerman Fossil Beds National Monument's interpretive services will provide visitors with opportunities to increase their understanding and appreciation for the park and its resources; to engage in local educational opportunities; and to participate in nationally significant events.

To provide an active, engaging interpretive program, park staff and partners will work together focused on the following goals:

- Develop a Core Interpretive Program
- Increase Professional Excellence/Professional Standards/Training
- Collaborate with Formal and Informal Partners to Help Achieve Shared Goals
- Ensure Interpretive Programs, Products, and Services Will Reach Out to New and Underserved Audiences
- Develop a Comprehensive Youth Program
- Connect Visitors with the Primary Park Resource – the Fossil Beds
- Explore Opportunities to Make/Strengthen Connections to Tribes
- Produce Interpretive Media Products That Reflect the Diversity of Delivery Methods Taking into Account Changing Demographics and Emerging Technology

New permanent facilities proposed would permit sharing of this view of the Snake River and fossil beds from the park property opposite the fossil beds.



The Planning Process

This Long-Range Interpretive Plan outlines recommendations for future interpretive services, facilities, and media. Park staff, partners, and stakeholders worked together to develop a comprehensive tool that will outline educational and recreational opportunities for visitors to develop intellectual and emotional connections to the natural and cultural resources found within Hagerman Fossil Beds National Monument. Our goal is to promote the park's resource values through specially planned visitor experiences and excellence in interpretation.

This Long-Range Interpretive Plan (LRIP) recommends actions that should occur over the next five to seven years. It identifies park themes, describes visitor experience goals, and recommends a wide variety of personal and non-personal interpretive services and outreach activities that will best communicate the park purpose, significance and themes. Developed in concert with the park Annual Implementation Plan and Interpretive Database, it completes the Comprehensive Interpretive Plan for the park, as established in Director's Orders 6. In addition, this planning process has been customized to meet the needs of Hagerman Fossil Beds National Monument, as well as the conditions and special circumstances that exist there. The ultimate product is a cost-effective, tightly focused, high quality park interpretive program that achieves management goals, provides appropriate visitor opportunities, and facilitates desired visitor experiences.

Most photographs in this document are from park files and were taken by park employees or volunteers. The exceptions are the Matternes mural on page 28 and the Hagerman Horses on the cover which are from the Smithsonian Institution.

A series of workshops were held March 17-20, 2015 and April 5-7, 2016. Staff review and editing of the draft document spanned the period between September to December 2016.

Barring legislative changes or major new revelations, the foundational elements expressed in this LRIP – purpose, significance, themes, and visitor experience goals – will remain constant over the life of the plan. Specific recommendations about media and programs may need to be updated as staffing, funding, technology, or resource conditions change. Further design documents must be produced to implement some of the goals and recommendations in this plan.

This set of current directional signs illustrates the confusion presented to visitors attempting to access the park.



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Foundation for Planning

Site Background

Hagerman Fossil Beds National Monument (park) preserves the fossil remains of more than 140 fossil species from the Pliocene epoch (5.3 to 2.6 million years ago) and is recognized as one of North America's most important localities concerning the evolution of the horse. The park's geologic strata are a slice of the Pliocene, providing a detailed record of an evolving environment that spans at least 500,000 years. It includes fossils found nowhere else in the world. The density, diversity, and quality of fossils led to the site being designated as a National Natural Landmark in 1975.

Hagerman Fossil Beds National Monument lies within a scenic region of southern Idaho where sandy bluffs, basalt canyons, waterfalls, and hot springs are interspersed between vineyards, ranches, and farms producing various crops including sugar beets, potatoes, and corn. The 4,394-acre park lies just west of the town of Hagerman. The park's fossil beds offer a world-class setting to conduct research that can better enable the scientific community, the public, and land managers to understand the past.

Located just two miles from the town of Hagerman in southern Idaho, the park annually attracts more than 23,000 visitors and researchers. In addition to the ongoing research at Hagerman Fossil Beds, the park maintains a close relationship with its Kenyan sister park, Sibiloi National Park, another site of important fossil deposits. The National Park Service and Kenya's Wildlife Service and National Museums of Kenya signed a sister park agreement on June 30, 2013 to promote international cooperation and collaboration. This is the first National Park Service sister park agreement with an African nation.

Enabling Legislation

Public Law 100-696 dated November 18, 1988, authorized the establishment of Hagerman Fossil Beds National Monument "... to preserve for the benefit and enjoyment of present and future generations the outstanding paleontological sites known as the Hagerman Valley fossil sites, to provide a center for continuing paleontological research, and to provide for the display and interpretation of the scientific specimens uncovered at such sites... "

Kenyan Wildlife Service Rangers face many of our same concerns in preserving fossils at our sister park- Sibiloi National Park.



Because science research and the display and interpretation of scientific specimens rests at the core of Hagerman Fossil Beds legislation, the most recent statement of the Department of the Interior’s policy on scientific integrity (Department Manual (305 DM 3), dated January 28, 2011, provides important guidance as does Director’s Order 79, Integrity of Scientific and Scholarly Activities signed on September 19, 2012. Specifically, the Code of Conduct requirements to “communicate the results of scientific and scholarly activities clearly, honestly, objectively, thoroughly, accurately, and in a timely manner”; and, to “clearly differentiate among facts, personal opinions, assumptions, hypotheses, and professional judgment in reporting the results of scientific and scholarly activities and characterizing associated uncertainties in using those results for decision making, and in representing those results to other scientists, decision makers, and the public” will influence the development of future interpretive and educational products and services.

3.4 Policy. The Department of the Interior supports a culture of scientific and scholarly integrity. Science and scholarship play a vital role in the Department’s mission, providing one of several critical inputs to decision making on conservation and responsible development of natural resources, preservation of cultural resources, and responsibilities to tribal communities. The Department recognizes the importance of scientific and scholarly information and science and scholarship as methods for maintaining and enhancing our effectiveness and establishing credibility and value with all sectors of the public, both nationally and internationally. The Department is dedicated to preserving the integrity of the scientific and scholarly activities it conducts, and activities that are conducted on its behalf. It will not tolerate loss of integrity in the performance of scientific and scholarly activities or in the application of science and scholarship in decision making.

Jacketed fossils wait for attention in the old Prep Area; the new proposed Prep Area would include a public viewing window.



See Appendix D for notes on Director’s Order 79: Integrity of Scientific and Scholarly Activities.

Purpose and Significance

According to the 2015 Foundation Document

Park Purpose

The purpose of Hagerman Fossil Beds National Monument is to “Preserve outstanding Pliocene paleontological resources, to serve as a center for furthering scientific research, and to broaden public understanding of the science of paleontology and the significance of the Hagerman fossil record.”

This record includes fossils in situ, or in place, that have yet to be excavated.



Park Significance

Hagerman Fossil Beds National Monument is significant for the following reasons:

1. The park contains globally significant paleontological resources, representing a diversity of fossils from the Pliocene. Tens of thousands of fossils have been discovered in the park, including more than 140 species of animals and plants. This includes species that were first discovered here and species that have not been found anywhere else in the world.

2. The park's paleontological resources are contained in an extensive stratigraphic record, spanning at least 500,000 years. These fossil deposits are exposed across more than 4,000 acres of the park. They record a diverse fossil landscape representative of lake, wetland, riparian, woodland, and grassland environments. Because of this diverse fossil landscape, the park has been designated a National Natural Landmark.

3. The fossil record at Hagerman Fossil Beds provides a detailed glimpse into life that occurred during the Pliocene period, the most recent geologic time period that experienced global warming. The expansive timeframe exposed on the monument, coupled with the species diversity it contains, provides a framework for understanding climatic change and environmental response today and in the future.

4. Some of the species found within the Hagerman fossil record include the ancestors of species living today. Some of these descendants occur in North America, while others are now only found in distant places such as Asia and South America. Hagerman's fossils contribute to a growing understanding of evolutionary relationships and distributions of species across continents.

5. The park features a fossil horse quarry recognized as one of North America's most important sites concerning the evolutionary history of the horse.

6. The fossil-rich landscape of the park is the result of 4.2 million years of geologic history of sedimentary deposition, fossilization, and erosion. The park reflects the accumulation of sediments associated with ancient Lake Idaho, the cataclysmic impacts of the Bonneville flood, and the basalt flows that affected the course of the Snake River. Collectively, past and present geologic processes contribute to the ability to access, study, and understand this remarkable fossil record at Hagerman.

7. Hagerman Fossil Beds National Monument is one of the few federally administered fossil sites specifically set aside for paleontological research. Since the Smithsonian first excavated in 1929, tens of thousands of additional fossils have been found and new fossils continue to be discovered. Research since the 1930s has led to numerous scientific publications on the descriptions of new species, changing community dynamics throughout the geologic sequence, and the site's geologic history. The opportunities and benefits from multidisciplinary research will continue to grow as additional fossil and geologic discoveries occur and new technologies emerge.

Fundamental Resources and Values

Fundamental resources and values (FRVs) are those features, systems, processes, experiences, stories, scenes, sounds, smells, or other attributes determined to warrant primary consideration during planning and management processes because they are essential to achieving the purpose of the park and maintaining its significance. Fundamental resources and values are closely related to a park's legislative purpose and are more specific than significance statements. According to the 2015 Foundation Document, these are the FRVs of Hagerman Fossil Beds National Monument:

- *Pliocene Fossils*- The vertebrate, invertebrate, and plant fossils, including those from the area of the Smithsonian's Hagerman Horse Quarry, are fundamental to the purpose and significance of Hagerman Fossil Beds National Monument. The number, variety, and quality of the fossils preserved at and excavated from the park define what makes the park worthy of being a national park unit and national natural landmark. Hundreds of fossils are found each year during annual monitoring. These fossils represent a great variety of life, from small rodents and frogs to the giant mastodon.
- *Public Understanding of Paleontology at Hagerman Fossil Beds*- Understanding the steps involved in paleontology—discovery, collection, cleaning, identification, cataloging, and research—and the importance of access to collections underscore the park's mandated role as a paleontological research center. Interpretive displays, opportunities to observe researchers "in action," public outreach, and virtual tours of the park and collections are tools for explaining how the park staff preserve and protect the Hagerman fossil record and how the results of research are shared regionally and globally. A heightened understanding of the park's past, ongoing, and future contributions to paleontological research, including the study of past ecosystems, reinforce the park's purpose and significance.
- *Lead and Facilitate Research*- The park has the mandate to be a center for research. Place-based and facilitated research is critical to scientific progress and public understanding. The current fossil collection and new discoveries will allow important research on Pliocene fossils and their paleoecosystems to continue. The science is key to the understanding of changes that drove adaptation, migration, and extinction, and data from the monument can serve as an analog for species undergoing climate change today. As a center for research, the park helps the public understand the scientific process, as well as the associated relevance of evolution and the study of past ecosystems and environments.
- *Geologic Processes*- Past and current geologic processes including sedimentation, tectonic uplift, and erosion help define what the landscapes and communities were like in the ancient past. They also define how landscapes and communities may change in the future. At Hagerman, such geologic processes have produced ideal conditions for the fossilization, preservation, and subsequent exposure of species' remains.
- *A Record of Paleoecosystems*- Hagerman's fossils contribute to the world's understanding of fossil animals in their paleoenvironmental context. This allows researchers to reconstruct past ecological interactions and connections, including changes in an ecological community that may be linked to climate and environmental change. The changing climate and resulting ecosystem response observed during the Pliocene mirrors and can model—in some ways—today's observed and anticipated climate and environmental changes.

Seeing a Fossil Preparator at work would enhance the visitor experience and make visible the science the park supports and features.



Other Important Resources and Values

Hagerman Fossil Beds National Monument contains other resources and values that are not fundamental to the purpose of the park and may be unrelated to its significance, but are important to consider in planning processes. These are referred to as “other important resources and values” (OIRV). These resources and values have been selected because they are important in the operation and management of the park and warrant special consideration in park planning.

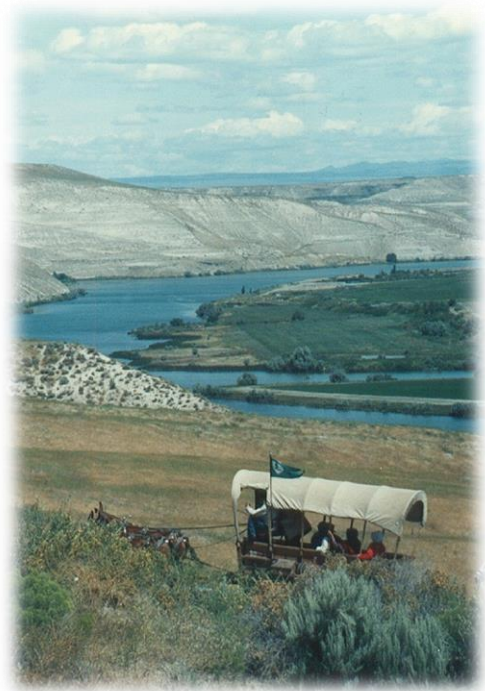
The following other important resources and values have been identified for Hagerman Fossil Beds National Monument:

- *Oregon Trail*- The park includes portions of the Oregon Trail that extend above the Snake River. The Oregon Trail crosses the southern portion of Hagerman Fossil Beds. The park is one of three national park system units that contain parts of the Oregon National Historic Trail. Trail ruts can be seen at the Oregon Trail Overlook parking lot. Remnants of the trail are iconic and are used to convey the story of migrating settlers and interactions with native peoples.
- *Scenic Geologic Landscape*- Views from scenic overlooks provide opportunities for visitors to see the Hagerman Valley and a portion of the Snake River, active geologic processes, and the surrounding geologic landscape formed through these processes.
- *Modern Flora and Fauna Communities*- The park features vegetation resources including the sagebrush steppe and riparian and wetland areas that occur along the lower Snake River. These communities support a variety of native species and contribute to wildlife viewing and hunting (in a small designated part of the park).

During the planning process for this document two past resource values (1998 LRIP) were also determined to be important:

- *Natural Quiet, Night Sky*- The location of the park with its rural nature and farm neighbors gives park visitors an often rare opportunity to escape the urban encroachment of traffic noises, light pollution, and the trappings of humanity.
- *Native People*- The monument is considered part of the traditional homelands of the Shoshone and Bannock tribes and has a few cultural sites within the park boundary.

Oregon Trail reenactment events held in the park helped visitors to envision travel and conditions during that time period.



Interpretive Themes

Interpretive themes capture the essence of Hagerman Fossil Beds National Monument's significance. They include the most important stories and represent core messages that every visitor should have the opportunity to experience. Themes explore the meanings behind the facts. They open minds to new ideas and to multiple points of view. Themes encourage visitors to see themselves in the park's stories and discover personal relevance.

Delineated in the 2015 Foundation Document, the interpretive themes for Hagerman Fossil Beds National Monument are:

- Research and exploration at Hagerman Fossil Beds allow paleontologists, other scientists, park staff, and visitors to discover and understand evolutionary relationships, species distributions, and animal behavior both at the site and elsewhere in the world.
- The monument is a window into the Pliocene past; a diverse array of fossils of animals (such as the Hagerman Horse) and plants that allows scientists to reconstruct ancient landscapes, revealing relationships between species in lake, wetland, riverine, woodland, and grassland environments.
- Past and present geologic processes that formed the current landscape at Hagerman first preserved and are now exposing fossils, providing scientists, staff, and visitors with the ability to view, study, and understand Hagerman's remarkable fossil record.
- The fossil record at Hagerman provides an opportunity for visitors to explore the "life of a fossil": the chemical, physical, and biologic processes that created the right environment for its fossilization, and the events leading up to its discovery.
- Fossils are fragile and, once destroyed, can never be replaced. When a fossil is removed without scientific documentation, paleontologists are unable to piece together the relationships between specific plants, animals, and their environments. Stewardship of the fossils and respect for other monument resources are everyone's responsibility.
- Hagerman Fossil Beds National Monument was set aside for scientific research because its Pliocene fossils provide the opportunity to understand an important portion of the history of life. The fossils include animals with ties to Eurasia, South America, and Africa, as well as many species that live in the Hagerman Valley today.
- People have lived in the Hagerman Valley for at least 10,000 years; their presence is recorded on the landscape in various ways.
- The Pliocene epoch provides compelling evidence of the impact of climate change on animals and plants similar to those found in the world today. Hagerman Fossil Beds National Monument offers a venue for discussing the effects of past, current, and future climate change.

Students recognize how fragile fossils can be and work to create a plaster jacket like those that protect fossils.



Appendix C is an Interpretive Theme Matrix that describes each theme statement using examples of concepts or ideas appropriate to the theme and examples of topics and stories that fit within each theme.

Interpretive Management Goals

The following goals reflect how interpretation and education will support broader management goals with an emphasis on helping people understand the value of the resource and fostering a sense of stewardship:

Goal A: Core Interpretive Program

Park staff will identify, develop, and sustain a contemporary and relevant “basic interpretive program” of orientation, information and interpretation and education programs, products and services that are readily available and free to the public; offered on a consistent and seasonally appropriate basis; and incorporates both personal and non-personal service formats.

Goal B: Professional Excellence-Professional Standards-Training

This comprehensive interpretive program, regardless of provider, will be grounded in current scholarship; the best available social science regarding audiences and learning styles; incorporate contemporary interpretive techniques and methods; consider park and audience relevance; and will be regularly reviewed for interpretive effectiveness.

Goal C: Collaborate with Formal and Informal Partners

Partnerships, both formal and informal, will be identified and developed to expand the park’s reach, fostering a sense of pride and ownership; stewardship of park resources; resource protection and an awareness of the park’s contribution to local and regional economies and the quality of life.

Goal D: Interpretive Programs, Products, and Services Will Reach Out to New and Underserved Audiences

Park staff will develop a variety of interpretive programs, products, and services supporting targeted community outreach efforts with a focus on forming connections with new and underserved audiences in the surrounding community, local area, and through international connections.

Goal E: Interpretive Products Will Reflect the Diversity of Delivery Methods, Changing Demographics and Emerging Technology

The overall interpretive program will purposefully match park messages, delivery techniques and methods and audiences with particular emphasis on changing demographics, emerging technologies, and contemporary relevance of park resources to diverse audiences.

Goal F: Comprehensive Youth Program

The park will develop and provide a comprehensive park-wide Youth Program designed to engage youth in educational, recreational, and workforce developmental opportunities which support stewardship, skill development, and potential career opportunities resulting in meaningful connections with the park and National Park Service.

Goal G: Connect Visitors with the Primary Park Resource- the Fossil Beds

At Hagerman Fossil Beds visitors cannot physically go to and experience the fossil beds first hand, nor can they safely handle the actual fossils. Interpretation has the responsibility to bridge the gap between the visitor and the resource. The park will focus on developing programs and facilities for place-based interpretation.

Goal H: Make Tribal Connections

Changes in the understanding of the park’s resources, from a cultural perspective, should be explored and shared with park visitors. If associated tribes are willing to share histories related to the park including past use of lands, cultural importance of flora and fauna, and any histories related to fossils, we should make an effort to share them when appropriate.

The implementation plan on page 22 refers specifically to these goals.

Desired Visitor Experiences

Desired visitor experiences describe what physical, intellectual, and emotional experiences should be available for visitors to Hagerman Fossil Beds National Monument. These experiences will be available to the degree possible to visitors of all abilities, including those with visual, auditory, mobility, or cognitive impairments.

Visitors to Hagerman Fossil Beds National Monument will have opportunities to:

- contemplate, relax, and enjoy monument resources without pressure.
- have a safe visit and have their comfort needs met.
- find their way around the monument without assistance.
- learn about monument themes in ways appropriate to their ages and abilities.
- interact with the monument staff informally and formally.
- visit and interact with representative pieces of the scientific collection of fossils regardless of physical ability.
- view fossils being scientifically prepared.
- discover the scientific and educational values associated with fossils and other national monument resources.
- see and experience the present day Hagerman Fossil Beds ecosystem.
- become involved with the preservation of the monument and support the protection of fossils and other resources.
- mirror the scientific method for fossil study by attempting hands-on examination of fossils, casts, or representative bones.
- experience solitude and unencumbered views of landscapes and night skies.
- view park resources from the Snake River.
- Purchase fossil replicas and unique items to bring home and extend their visit.
- assist with management of current park flora/fauna.
- relate to Hagerman Fossil Bed's Sister Park, Sibiloi National Park in Kenya, and discoveries being made there.
- purchase books and other publications, receive park produced bulletins and flyers, access web based materials, and explore information sources related to the park on their own.
- gain an understanding of how the park's fossils are part of world research on fossils.
- use measuring instruments, microscopes, and field tools to better understand the importance of scientific tools and methodology.
- solve 'scenarios' posed at visitor center stations to distinguish how sediments tell the story of climate change, lacustrine (lake) deposition processes, and other river and lake processes such as chemical and physical changes.
- view changes over time in the fossil bed area using wayside exhibits and park produced publications.
- discuss the importance of the Pliocene epoch and evolution, adaptations, the extinction of life and how that relates to today's climate and climate changes using social media.
- correlate the relationship between the landforms and features viewed at Hagerman Fossil Beds National Monument today to ancient fossil deposition.
- attend programs and special events that may stimulate advocacy for land management practices.
- analyze how humans have adapted to and impacted the physical setting of Hagerman Fossil Beds.

Audiences

In order to design the most effective interpretive and educational programming as well as employ the most effective techniques, park staff must identify intended audiences, both existing audiences who actively visit the park (onsite and virtually) and potential new audiences that well-planned services may encourage. Because different audiences have varied needs and expectations, specific interpretive and educational strategies and methods should be developed to meet the needs of each.

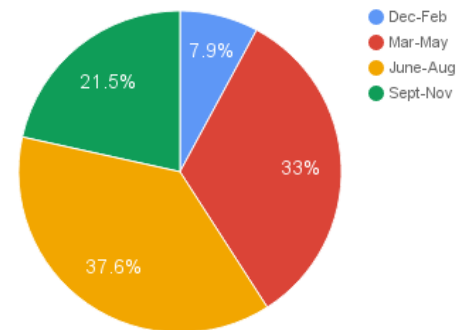
Current Audiences:

The typical visitor to Hagerman Fossil Beds is on his/her way to another park. Most visitors are attracted by the directional signage on Interstate 84, or a desire to collect NPS visitation trophies (cancellation stamps, pins, brochures, etc). A number of visitors are confused, not being able to differentiate between the many state parks in the area and the national park. At this time, most visitors are not coming to the park as a final destination. The flow of visitors is directly dependent on travel conditions. Visitation is considerably less in winter months. Less than 30 percent of park visitors attend a formal or informal program at the park.

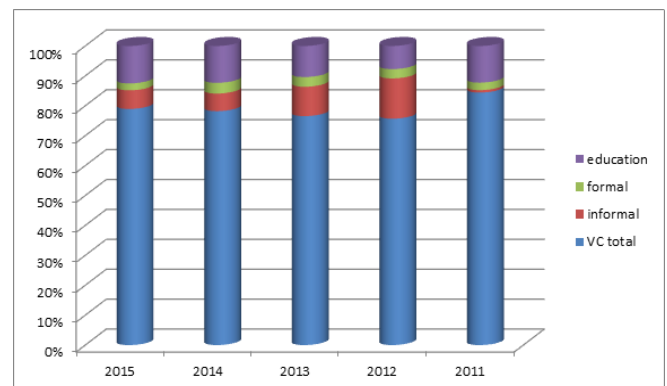
Visitors are frequently confused by the dispersion of the Hagerman Fossil Beds National Monument facilities. The visitor center/administrative offices and the fossil lab/maintenance complex are located miles apart and not on the main grounds of the monument. Visitors in the visitor center are not able to see the park from it's downtown Hagerman location. Consolidating the facilities at the maintenance/paleo lab area so that visitors may see scientists at work, view the main park grounds from across the river, and access administrative functions as appropriate was been recommended by Washington level staff such as NPS Associate Director for Interpretation, Education and Volunteers, Julia Washburn.

Quarterly Visitation Trends: most park visitors chose the spring or summer for enjoying the park resources.

Seasonal Visits



Activities at the Park: Visitors just stopping at the Visitor Center outnumber those who participate in educational, formal or informal programs.



Potential Future Audiences:

This Long-Range Interpretive Plan recognizes that interpretive and educational techniques and audiences are intimately connected. It is important to recognize that all audiences are welcome and invited to participate; some techniques are better adapted to, or appeal to, particular audiences. Parks seek to appeal to a wide range of visitors of varied backgrounds and ages with different motivations for visiting.

Education Groups

Education groups may include students from pre-K to Road Scholar. Lifelong learning opportunities should be offered in addition to elementary and secondary school models to introduce adults as well as children to park stories. Transportation and time constraints may make it challenging for students to travel to any or all of the three separate park locations: the visitor center, the lab area, and the main unit of the park. Distance learning opportunities may be an option to expand the park's educational outreach. Public schools in the area represent economically disadvantaged and ethnically diverse communities that may also be potential new audiences.

Underserved Audiences

The changing nature of cultural and ethnic minorities and majorities indicates the park must contain values that attract and interact with non-traditional users. Materials in multiple languages, programs that explore resources in a new manner, and creating an inclusive, welcoming atmosphere need to be identified and developed. According to census data compiled by the Idaho Commission on Hispanic Affairs, the Hispanic population in Idaho is growing faster than the general population. An influx of refugees needs to be supported and encouraged to visit. By including students from the Idaho School for the Deaf and Blind- less than 20 miles from the park- in programming assistance and visitor service options the park anticipates results in accessibility that will benefit many others.

Multi-generational Families

Large extended families may speak multiple languages and have different cultural and spiritual needs. The park will strive to ensure that all visitors have a meaningful and safe visit. Planning programs and services that incorporate how the families may use the park (larger group size, picnicking, and family-time) will help attract these audiences to the area and ensure they have a desirable experience.

Local Visitors

Anecdotal evidence suggests that many locals living nearby may not even know that they live within or adjacent to the park. Staff will need to explore a variety of outreach methods to effectively engage and promote stewardship with these local residents.

Virtual Audiences

Virtual audiences are visiting on- as well as off-site using a variety of electronic devices. They are looking for conversation, community, trip planning, current conditions, and emergency alerts using a variety of social and digital media. Since this trend is likely to accelerate, the park will need to develop strategies to use emerging technologies to reach these audiences in cost effective and sustainable ways.

Youth

Current studies indicate that youth are disconnected from historic sites. This disconnect may be a result of competition for time, family history/diversity/ethnicity, and lack of access. Exploring ways to effectively engage youth through service-learning projects, organized groups, and within family units will ultimately create opportunities for them to become future employees, stewards, advocates, voters, and decision makers. Improving student engagement in Science, Technology, Engineering, Art, and Math (STEAM) remains a national focus.

Challenges and Opportunities Affecting Interpretation

Hagerman Fossil Beds National Monument has many assets upon which to build an effective interpretive program, including evocative and compelling stories, outstanding natural and cultural resources, ongoing research, and dedicated staff and supporters. It also faces a number of challenges. Well-designed programs can build on interpretive strengths to help overcome these challenges.

Future audiences may have different expectations and needs for media and technology to better understand area stories and to make connections with area resources.

Due to budget shortfalls and curriculum mandates, schools may not be able to come to the park so outreach alternatives will need to be identified. For example, the park may provide the resources so the teachers can develop lessons and present them to the students. Virtual tours, Distance Learning, and other options need to be evaluated and established with the assistance of partners or other NPS resources.

Visitor motivations for spending their leisure time are changing. As more demands are being placed on free time there is a limited amount of time available to participate in interpretive and educational activities and programs. Offering a range of options including recreational as well as targeted interpretive activities is necessary.

The lack of access to the resources, both the physical fossil beds and the paleontology laboratory, due primarily to safety concerns, adds constraints to public presentations and interaction with the park. Studies on the effect of Radon exposure due to fossils, as well as mitigation techniques to minimize or negate exposure need to be explored. Safety related to the unstable grounds that constitute the fossil beds, without damaging the resources, needs considerable examination.

Partnerships will be the backbone for implementing this interpretive plan. Existing partnerships will need to be strengthened and maintained. New partnerships will need to be identified and established. Park staff and partners will need to collaborate and work together to provide interpretive programs and services. Sharing the expertise of the park staff with partners will build an appreciative and responsive support base for the park and park policies.

As fiscal budgets tighten, Park staff and partners will need to develop business strategies and consider new, different, perhaps entrepreneurial fee-based ways to provide interpretive and educational services.

This view of the Snake River and fossil beds emphasizes how difficult it is to access the park resources, yet may also create unique experiences for visitors such as kayak tours.



Existing Conditions

Visitor Center

Hagerman Fossil Beds' current visitor center is located in a leased former video store in downtown Hagerman, Idaho. With only a short term lease for the building, it is not practical to install permanently-affixed exhibits nor devote significant funding for major renovations. It is not ADA compliant. The visitor center is 5 miles from the park's lab area and 7 miles from the main unit of the park. In its small rooms, the NPS attempts to provide orientation and interpretation of the park and its resources, offer cooperating association sales items, and provide office space for several employees. Although the current location is attractive on the outside, there is limited parking and little room for outdoor exhibits.

The visitor center contains a few fossils and replica fossils on display. Accompanying them are prominent signs on all of the displays proclaiming that they are not to be touched. Fossils are being evaluated for radon emissions and may be removed from display as leased facilities have additional restrictions regarding radon. Some of the replica fossil casts are old enough to be a historic resource and are in delicate condition (or in less than prime condition). The building itself places limits on the number and weight of fossils/displays that can be presented due to flooring strength and surface area available.

The authorizing legislation for Hagerman Fossil Beds calls for active research and public interpretation of the fossil story, which are the complementary and core operational goals for the park site. Lack of space has led to informational displays over interpretive offerings.

Bookstore

A small cooperating association bookstore is tucked into one corner of the visitor center. Two park specific book titles as well as a display of general fossil information titles are featured. The park needs to work with the park cooperating association to develop more park specific interpretive sales materials on a variety of topics (perhaps in partnership with a new Hagerman Fossil Beds friends group). There is a desire to expand future products available to include items of interest and price to appeal to school children.

Personal Services

Beyond staffing the visitor center information desk (and bookstore sales area), occasional contact tables at special events, and weekend roving of the park grounds, personal service options are staffing dependent.

A 'drop in' Saturday program on the visitor center patio uses hands-on elements and is presented for four hours in the summer and fall. Topics are varied but tend to appeal to children more than adults.

School Programs

The State of Idaho is experiencing difficulty in establishing standards for science education and having them approved. The lack of a directive for schools has led local schools to drop many of their science classes for elementary ages. The park has a regular rotation of Hagerman students, by grade level, attending monthly programs at the park visitor center for science related learning. The science of paleontology is but a small part of this monthly series. This series of programs, as well as general offerings to school groups from outside of the Hagerman School District, are not part of an established curriculum (due to the lack of state standards) and do not build on previous learning (no pre- or post- visit lesson plans, no progression of concepts building on past visits).

Traveling Trunks

The materials for multiple educational trunks are available but seldom requested by schools perhaps due to return shipping costs. Having a complete program, with state standards related lesson plans, could make the materials more attractive to teachers, but without established state standards this cannot be done effectively.

The contents of the traveling trunk are pictured here. Perhaps a variety of trunks would be of greater use to teachers.



Monument Grounds

The fossil-bearing strata at Hagerman Fossil Beds National Monument are located on very steep, 600-foot high bluffs of loose sands, shales, and clay overlooking the south bank of the Snake River. With the exception of the Rim to River Trail, Hagerman Fossil Beds management has determined that trails through the bluffs would be dangerous, damaging to the resource, and would cause unsustainable erosion and rock fall.

Most visitors view the fossil-bearing strata from a distance using either the Snake River Overlook to the east of the bluffs or the Bell Rapids Dock across the river on the northern shore. While the view from the overlook is lovely and interesting in and of itself—great blue herons and other shore birds soaring above the blue river and the lush green of the pastoral farmlands contrasting against the harsh tan desert sands—neither fossils nor the fossil beds are visible to the naked and untrained eye. The view from park's shore area is similarly at a distance.

Newly rehabilitated overlooks have accessible decking, attractive waysides, and amphitheater seating, but they lack shade and tactile elements. Even with helpful wayside exhibits nearby at the overlooks, it is not easy to ascertain exactly where the fossil beds are located.

Trail System

There are two trails within the park grounds and the potential to connect to regional bicycle trails as well. Very little wayfinding, let alone interpretation, is associated with the trails. Maps of the system tend to be informational in nature and small in size.

Wayside Exhibits

Park wayside exhibits are clustered around two access points: the Snake River Overlook and the Oregon Trail Overlook. Changeable bulletin boards are installed at both overlooks but are underutilized and tend to collect a few informational postings only.

Social Media

The park does have an established Facebook page with over 1200 followers. Posting is done irregularly with no pattern or design. The followers are mainly from the U.S. but only 200 from Idaho. The largest concentration by age is in the 35 to 44 years bracket.

There are no other social media platforms being maintained or established.

Interpretive Media

The visitor center auditorium is equipped with a system that will play video CDs as well as accept other media such as computers for PowerPoint presentations, and other audio sources for theater programs. Two park specific video CDs are shared with the public. One, *The Talking Mastodon*, is intended for children. The main presentation, *Hagerman Fossil Beds: A Snapshot of the Past*, provides a 12 minute overview of the park. Both presentations are inaccurate and less than appealing in visuals. They are park-produced efforts and lack accessibility features such as captioning and audio description.

Interpretive Publications

The park brochure (unigrid design folder) is available to all park visitors not only in the visitor center but also at trail heads and overlooks. The brochure was last updated in 2015. The park offers site bulletins to answer many common visitor questions, generally about area attractions and maps. A Junior Ranger book specific to Hagerman Fossil Beds is available as well as a general NPS Paleontology Junior Ranger book. The Hagerman Junior Ranger book was last updated in 2013.

Park Website

Hagerman Fossil Beds has an established web presence at the NPS website. The information about the fossil resources is dated and from an old newsletter distributed during the early days of the park. Only 20 species of fossil animals are discussed. There are few photographs or drawings of the park fossils. Information about current species of plants and animals is limited and has few illustrations. A three paragraph mention is made of Native American history, and an equally short mention is made of the Oregon Trail. The first discovery of the fossil beds and the Smithsonian Institution work done on the fossils is barely mentioned on that same history page. Visit planning information tends to refer the reader to other local attractions instead of promoting park resources and facilities.

Current Staffing

Staffing levels for the park, including those specifically for Interpretation, are very fluid. Multiple directives influence where staffing is concentrated as well as duties performed. The establishment of Minidoka National Historic Site in recent years has involved a sharing of resources. With the separation of parks in FY2017, baseline interpretation staffing and services needs to be established.

Park Partners

A functioning, well established Friends group has not been viable at Hagerman Fossil Beds for years. The joint work between Minidoka and Hagerman has shown, via the Friends of Minidoka, the great value in having an active Friends Group. Tourism-related partnerships are working well, however, and the park has a strong working relationship with Idaho State Parks, Idaho Fish and Game, and the National Fish Hatchery in the area. The City of Hagerman, County of Gooding, and other governing bodies are also engaged with the park and are very supportive. Changes in the Hagerman Historical Society, Hagerman IDEA (Improvement Development Education Appreciation, Inc.), HAVENS Project, and other smaller partners create an ebb and flow cycle of projects and support.

Community Outreach

The interpretive staff participates in a number of special events off-site. The park does not currently sponsor recurring special events on park grounds other than speakers presenting programs (National Fossil Day, National Trails Day) in the visitor center, children's programs (Junior Ranger Day, kids day camp), or a Night Sky Program. Most of the off-site events are not centered on a paleontology theme, although park participation features hands-on learning related to the park fossils or general paleontology methods.

A biennial Bird Festival in Hagerman, Rock & Gem Show in Filer (27 miles from the park), Sagebrush Days in Buhl (19 miles from the park), Shoshone Arts Festival (33 miles from the park), Twin Falls County Fair (27 miles from the park), Live History Days in Jerome (22 miles from the park), and 1000 Springs Art Festival (10 miles from the park) are routinely attended by the park.

Museum Collection and Library

The fossil collection is maintained and accessed through the Resource Management Division of the park. There are storage and display concerns (radon, environmental controls, need for scientific study) that limit the interpretive interaction with the collection. Library materials may be housed in the Resources area or shelved in a small overcrowded backroom of the visitor center. Access to library materials can be blocked due to storage issues. There is no Scope of Collections plan for the library. Replicas and comparative (current-day) skeletons provide good opportunities for interpretation and education hands-on programs. Storage and care of the skeleton replicas is haphazard.

The fossil storage area is inaccessible for many reasons: location, safety of the collection, and safety of the staff due to radon gas emissions.



Recommendations

Interpretive planning assesses current conditions and formulates recommendations that will provide direction and focus to achieve the desired future interpretive program. A Long-Range Interpretive Plan analyzes all needs and recommends a wide array of interpretive services, facilities, programs, and opportunities for partnerships to communicate the park's purpose and significance in the most efficient and effective way.

Like this fossil turtle carapace the goals for Interpretation are fitted together to form one whole.

The Goals for Interpretive Programming are designed to realize the vision, objectives, themes, and visitor experiences described in the Foundation for Planning section of this document. The following principles will apply to all interpretation at Hagerman Fossil Beds National Monument:

- All interpretation will address physical and programmatic accessibility.
- Where possible, interpretation will use reproduction objects, documented personal stories, and other interpretive methods to bring the story alive for visitors.
- Where possible, the park will partner with neighboring institutions to develop programs, media, and share research.
- The park will follow the standards of the National Park Service Graphic Identity Program as signs and interpretive media are upgraded.
- Interpretation will include examples and perspectives from diverse points of view. It will respond to diverse audiences, varying levels of interest, and different visit lengths.
- Where possible, “virtual visitors” will have opportunities to view key park vistas and access to new research, studies, management plans, and historical information.



Goals for Interpretive Programming

Workshop participants identified goals to enhance the effectiveness of the interpretive services within Hagerman Fossil Beds National Monument. These goals and associated actions are representative of many ideas generated during the workshop. Action items were used to create the Implementation Plan located in the next section of this document.

Evaluate and Upgrade the Arrival Experience

The park has a dated arrival experience. The park needs to evaluate the existing experience and upgrade components including directional signs, park mailings, telephone response times and more. Interpretive staff will need to work with the tourism boards and convention and visitor bureaus to address representation at the Twin Falls Visitor Center, Idaho State Parks, and other venues. Changes to the park visitor center, including moving to park-owned facilities along the Snake River, will potentially impact the other venues as well as impact park visitation. Handouts such as maps, site bulletins, and other publications need to be reviewed for accuracy, interpretive content, and visitor value both pre-visit and on-site.

Renovate Current Visitor Center

A top priority for the park is to rehabilitate visitor center exhibits and redesign exhibit space. Much of the leased building space is currently used as “behind-the-scenes” offices and storage. The visitor center feels cramped and unappealing. Current exhibits are more informational rather than interpretive and are marked with multiple “Do Not Touch” warnings. Hagerman Fossil Beds needs to purchase and install new exhibit cases that will provide easier access to the collection. The staff and displays within the visitor center need to tell the stories of discovery and scientific wonder. Rather than another simulated dig site (there is one on park grounds and one outside on the visitor center porch) the staff will develop and install a Fossil Study Area. This would be a CSI-like (forensic) lab environment for visitors with an emphasis on youth to discover what it is like to be a Hagerman Fossil Beds paleontologist.

Visitors will be able to use professional tools such as microscopes, measuring calipers, samples of index fossils, and dating tools to analyze bones, teeth, fossil casts, and fossils/trace fossils in order to ‘solve’ a mystery such as what animal it is, what happened to it when it was alive, reasons why the animal had this feature, and other possible layman’s observations as developed by Geoscientists in Parks during internships at Hagerman Fossil Beds.

Permanent Park Visitor Center

Park-owned property in the Bell Rapids area has slowly been upgraded with new maintenance facilities and soon a new paleontological laboratory. An extension to the laboratory, with a viewing window into the lab, could serve as the park’s visitor center and is conceptually being defined. This extension is generally supported by regional and service-wide leaders and would replace the leased building, be designed for visitor services, and include exterior walkways and stations for exploration of the park story beyond the interior exhibits and Fossil Study Area. Existing invested funds from Idaho Power (as mitigation funds) may be used to leverage construction of the visitor center and introduce an Arts Walk section as well as hands on stations for creating mock fossil casts.

Increase Opportunities for Youth to Engage with Resource

Programs for young children from Head Start to Elementary are well established at the park. The staff desires to make stronger connections to older high school/college-aged youth who may still have interests in learning more about the fossil resources. Ideas such as establishing an Explorer Post for career exploration and STEM study, creating a youth day camp with Youth Conservation Corps employed role models and leads, using Stay in School, Student Conservation Association, and Idaho Youth Corps or other programs to employ local students seasonally at the park will be investigated.

This fossil bear jaw is one of the resources visitors may wish to engage with during a park visit.



Augment Curriculum-Based Programs

The park has a strong interpretive and educational program for young visitors. During the next 5 years, we will continue to offer basic services and when appropriate increase the level of service accordingly. Changing educational directives and methods both nationally and statewide will drive a change in park offerings. Curriculum followed by Boy and Girl Scouts, Boys and Girls Clubs, Future Farmers of America, 4-H Clubs, Frontier Girls and Quest Clubs, and Campfire Club needs to be studied and program offerings developed to attract participants and groups. Junior Ranger programs for other learning styles as well as advanced learners need to be established.

Reach Non-Traditional or Underserved Audiences

The bulk of park visitors are passing through and tend to be white, middle age or older adults. Along with reaching local audiences and youth, the park would like to see an increase in handicapped, multi-national, multi-cultural, and multi-ethnic visitors.

A review of park materials, written, recorded, and on-line, as well as a review of park facilities, needs to be completed to assure materials are welcoming, useful, and appropriate for varied audiences. The park lies within a two hour drive of a population of more than 1.5 million people. The south central Idaho area is undergoing tremendous population growth. Hagerman Fossil Beds needs to attract these residents and build a relationship where they wish to return to the area for subsequent visits.

(Re-) Establishment of a Friends Group

Past attempts at supporting the park via a Friends Group have collapsed. Specific projects, such as networking with the area hike/bike trails, presenting youth day camps, hosting special events on park lands, or taking an involved role in the development of park property near the Fossil Lab may energize a new group with which the park can collaborate. .

Expand Collaboration with Partners

Park efforts with Idaho State Parks and other groups to assist with presenting summer youth camps have been well received. Establishment of a regular on-site day camp(s) to specifically promote paleontology, STEM/STEAM education, and resource-based volunteer projects is desirable. Developing a strong community attachment to the park, its story, and science education would be a main goal. Attendance at and/or co-sponsorship of special events and outreach opportunities needs to be expanded so that Hagerman Fossil Beds National Monument can develop stronger relationships with park neighbors and the local communities.

The Twin Falls Visitor Center has offered space to provide park presentations. The development plan for the Billingsley Creek unit of Thousand Springs State Park (adjacent to the town of Hagerman) includes space for others to provide programs. Other opportunities for the park staff to present programs at meetings such as DAR, Kiwanis, Lions, Moose, Optimist, and Rotary clubs could be promoted.

Fossil [day]camp was a very popular offering filled with hand-on learning.



Address Staffing Concerns

The permanent staff for Hagerman Fossil Beds consists of one GS-11 Chief of Visitor Services and one GS-9 Education Specialist. Three to four seasonal GS-5 interpreters assist with park operations and are shared with Minidoka National Monument as needed. This prevents the park visitor center from being open 7 days-per-week all year. During fall and winter on Tuesdays and Wednesdays the center is closed to the public. When possible, one seasonal interpreter roves on park grounds on summer weekends. During the summer the interpretive staff presents Saturday summer ‘patio talks’ at the visitor center. Staff participation in local special events/fairs is greatly dependent on available interpreters. The hiring of at least one ‘career seasonal’ interpreter is desired for continuity and because there is a need for a year round interpreter for general visitor contact. The ability to do visitor level research (as opposed to Doctorate level done by the staff Paleontologist) and to offer public programs on a regular schedule is desired as well, which would also necessitate additional staffing or capacity building. Adequate staffing also permits time off for training and off-site meetings/events.

Connect Hagerman Fossil Beds to Regional Hike/Bike Trail

The beginning of the regional Hike/Bike Trail development will include bicycle lanes on the roadway in front of the current visitor center. Information and interpretation geared toward this new specialized audience needs to be developed and made easily available, including related offerings by park partners. Once the regional Hike/Bike Trail is connected to park lands in 2020, the park will need to offer digital and web-based resources for hikers and bikers using the trail. A new map and digital app, bike-friendly waysides, directional signs and support structures (e.g. bike racks, repair stations, possible rentals) will be needed.

Diversify Interpretive Products

Moving beyond printed brochures and flyers, bulletin boards, orientation film, and waysides, the park staff needs to expand its presence on social media, look at new interpretive methods such as podcasting, app development, and user-generated products. Programs and experiences that take place on park grounds, offered at regular predictable intervals, such as kayak tours, guided hikes, mock excavations at the overlook area, and similar activities would better meet visitor expectations and increase their understanding and appreciation of park resources.

Unstaffed park trails beckon visitors into the unknown; sometimes the visitor is too unprepared.



Implementation Plan

The measure of success of any plan is the extent to which it is implemented. Initial implementation of strategies needs to be both realistic and flexible. Because funding opportunities and priorities often change, park management may need to adjust the implementation strategies to adapt to changing conditions. Flexibility is extremely important to allow park staff and partners the opportunity to try new and different interpretive ideas and make adjustments as necessary.

Key: Management Goals are those listed on page 10 of this document. ONPS- Operational Funds from the NPS for Hagerman Fossil Beds National Monument; VIP- Volunteers in Parks; GIP-GeoScientists in the Parks; SCA-Student Conservation Association; DYNW-Discover Your North West; NAI-National Association for Interpretation; BIA-Bureau of Indian Affairs; BIE- Bureau of Indian Education; NPF-National Park Foundation; BSA-Boy Scouts of America; GSA-Girl Scouts of America; NIOSH-National Institute for Occupational Safety and Health

Interpretive Service	Mgmt Goal	Short-Term (w/in 1 yr)	Mid-Term (2-3 yrs)	Long-Term (4-7 yrs)	Fund	Existing or Potential Partners
Pre-Arrival Directional Signs	A		x		grant	Idaho DOT Scenic Byway
Pre-Arrival Twin Falls Center	A		x		co-op/ VIP	NPS, Tourism bureaus
Pre-Arrival Park Mailings/Telephone	A	X			ONPS	Tourism bureaus, Chambers
Park Webpages update, expand, add video, virtual collection	A, E		x		ONPS	NPS, GIP, SCA, Idaho Youth Corp
Social Media Facebook and expanded	A, D, E		x		ONPS	NPS
Informational Site Bulletins	A, C, D	X			ONPS, co- op assn	NPS, DYNW, Tourism bureaus
Interpretive Site Bulletins	A, D, E		x		ONPS, co- op assn	NPS, DYNW, other fossil sites
VC Experience Rehabilitate/upgrade/ update Fossil Exhibits	G	X			ONPS	NPS, Sandia Labs, NIOSH, Idaho State
VC Experience Changing Exhibits	E, G	X			ONPS	NPS
VC Experience Excavation Activity	A		x		ONPS	NPS, building owner

Interpretive Service	Mgmt Goal	Short-Term (w/in 1 yr)	Mid-Term (2-3 yrs)	Long-Term (4-7 yrs)	Fund	Existing or Potential Partners
VC Experience Hands On Fossil Area	A, E, G		x		ONPS	NPS
VC Experience Audio/Visual	A, E		x		Rec Fee	PMIS 148754
VC Experience Lab Views	A, G			X	ONPS	PMIS 232503
VC experience Outdoor Walkway	A, E			X	grant	Idaho Power
VC Experience Bookstore	A, C, D, E		x		Co-op Assn	DYNW
VC Experience Virtual Reality	E			X	Co-op Assn	DYNW
VC Experience Cell Phone App, etc	E			X	Co-op assn	DYNW
Youth Engagement Junior Ranger	A, E, F		x		ONPS, co-op assn	NPS, DYNW
Youth Engagement Explorer Club	D, F			X	fee based	NPS, BSA
Youth Engagement Summer Day Camps	D, F, G			X	fee based	NPS, DYNW, grants
Youth Engagement Jr Ranger/Fossil Days	A, F	X			ONPS	NPS
Curriculum-Based Elementary Education	A, F		x		ONPS	NPS, schools
Curriculum-Based Secondary Education	A, F	X			ONPS	NPS, GIP, SCA
Curriculum-Based College Level	A, F			X	ONPS	NPS, universities
Curriculum-Based Scouting Groups	C, F		x		fee based	NPS, BSA, GSA
Curriculum-Based Boys/Girls Clubs	C, D, F			X	fee based	NPS, Boys/Girls Clubs

Interpretive Service	Mgmt Goal	Short-Term (w/in 1 yr)	Mid-Term (2-3 yrs)	Long-Term (4-7 yrs)	Fund	Existing or Potential Partners
Curriculum-Based Art/Photo/Essay	D, E, F			X	NPS., co-op assn	NPS, DYNW, schools
Underserved Audiences Ethnic Groups	A, C, D		x		ONPS	NPS, specialty clubs
Underserved Audiences Non White Races	A, C, D, H		x		ONPS, BIA, BIE	NPS, specialty groups, Shoshone, Bannock, Northern Paiute
Underserved Audiences Church Sponsored	C, D			X	fee based	NPS, local groups, natl groups
Underserved Audiences Travel Clubs	C, D			X	fee based	network with CVB, tourism councils
Underserved Audiences Special Interest	C, D	X			fee based	network with groups, schools
Underserved Audiences Observance Months	A, C, D	X			ONPS	NPS, clubs
Underserved Audiences Local Neighbors	C, D	X			ONPS	City of Hagerman
Underserved Audiences Handicapped	A, C, D			X	ONPS	NPS, Idaho School Blind/Deaf, clubs
Partnerships Local Festivals	C, D, E	X			ONPS, VIP	NPS/VIP, other established partner
Partnerships Hagerman Historical Society	C		x		OPNS, grants	NPS, NPF
Partnerships Nearby NPS areas	B, C, E	X			ONPS	NPS
Partnerships NPS areas with fossil resources	B, C, E	X			ONPS	NPS

Interpretive Service	Mgmt Goal	Short-Term (w/in 1 yr)	Mid-Term (2-3 yrs)	Long-Term (4-7 yrs)	Fund	Existing or Potential Partners
Partnerships Oregon Trail, Glens Ferry, ID	C		x		ONPS	NPS
Partnerships Oregon Trail, Montpelier, ID	C			X	ONPS	NPS
Partnerships Sister Park- Sibilo	A, C		x		ONPS, co-op assn	NPS, DYNW
Partnerships Associated Tribes	H			X	ONPS, BIA, grants	NPS, Shoshone of Fort Hall
Partnerships/Friends Friends Group	C			X	self	NPS
Partnerships/Hike Bike City of Hagerman	C, E, G		x		ONPS, grants	NPS, City, Trails groups, Idaho
Partnerships/Hike Bike State Parks	C, E, G		x		ONPS	NPS, Idaho
Partnership/Hike Bike Fish Hatcheries	C, E		x		ONPS	Idaho and National
Partnership/Hike Bike Nat'l Trails Day	C, E, G			X	ONPS	NPS
Staffing Concerns On-Boarding	B	X			ONPS	NPS, Other NPS parks
Staffing Concerns Training	B, C		x		ONPS	NPS, NAI, other conferences
Staffing Concerns Retention	B, C			X	ONPS	NPS, Other NPS parks
Staffing Concerns Audits/Evaluation	A, B, E	X			ONPS	NPS
Staffing Concerns VIP Recruitment	B, C	X			NPS VIP	NPS, local partners

Appendices

Appendix A: The Planning Team

National Park Service

Hagerman Fossil Beds National Monument

Judy Geniac, Superintendent

Carol Ash, Chief of Interpretation (transferred)

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JoAnn Blalack, Chief of Resources

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Diane Garcia, Chief of Interpretation

Harpers Ferry Center

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Park Partners

Jennifer Hamilton, HAVENS project manager

Catherine Russell, SCA Interpretive Intern

Cameron Johnson, SCA Management Intern

Travis Whisenant, SCA Management Intern

The planning and writing of this document was stretched over a longer than usual amount of time. Team members changed but the value and importance of this Long-Range Interpretive Plan remains constant.

Here are just a few of the tools that paleontologists use while working in the field.



Appendix B: Accessibility Guidelines

Every attempt will be made to provide full access to interpretive media and programs to ensure people with physical and mental disabilities have access to the same information necessary for safe and meaningful visits to national parks.

This is in compliance with the National Park Service Special Directive 83-3, Accessibility for Disabled Persons

“...To provide the highest level of accessibility possible and feasible for persons with visual, hearing, mobility, and mental impairments, consistent with the obligation to conserve park resources and preserve the qualities of the park experience for everyone.”

Transceivers owned by the park can be used during tours or while watching the park film. Multiple channels permit both audio description and hearing assistance broadcasts.



All interpretation will follow general standards for accessibility as described in the Harpers Ferry Center Programmatic Accessibility Guidelines for Interpretive Media.

www.nps.gov/hfc/pdf/accessibility/access-guide-aug2009.pdf.

These include:

- The facilities shall be fully accessible to people in wheelchairs.
- Installing interpretive media in areas of buildings without wheelchair access is discouraged unless the inaccessible space is of crucial interpretive significance to the site.
- All other accessible design standards, such as captioning, audio description, assistive listening systems, and tactile access to exhibits, shall be applied to all exhibits that are accessible to the public regardless of location.
- Captioning, audio description, and assistive listening systems shall be provided for all audiovisual elements.
- The interpretive media shall be multi-sensory for all the interpretive messages being conveyed.
- The same experience can be provided for all users, without segregating or stigmatizing others with special accommodations or the need to ask for the special accommodations.

Appendix C: Interpretive Theme Matrix

The theme matrix proposed in this Long-Range Interpretive Plan identifies stories associated with the significance of Hagerman Fossil Beds National Monument. Each theme is described by a theme statement, examples of concepts/ideas appropriate to the theme, and examples of topics and stories that fit within each theme.

Concepts and ideas are written as objectives to help managers and interpreters align personal services, exhibits, or other media with area significance. Although interpretive themes should be relatively timeless, both the concepts/ideas and the topics/stories can be added to or changed when new information comes to light.

The theme statements adhere to accepted tenets of interpretive theme construction. That is, primary interpretive themes:

- Derive from the purpose and national significance.
- Capture and convey the meaning of a place not solely a collection of facts.
- Open minds to new ideas and introduce multiple points of view.
- Suggest connections, meanings, and relevance.
- Link universal concepts and experiences with tangible resources.
- Provide a foundation for more specific programs, presentations, and exhibits.
- Are expressed in single sentences.

These concepts, ideas, and topics are a representative, partial list. They are examples that could illustrate the concepts. They are not all-inclusive. In fact, they never could be, nor are they intended to exclude any topic. An interpretive theme is successful only if other topics and stories can be included within it.

Using ideas from the matrix is as diverse and interconnected as the Jay Matternes mural from the Smithsonian Institution showing Pliocene Hagerman.



Theme 1

Research and exploration at Hagerman Fossil Beds allows paleontologists, other scientists, park staff, and visitors to discover and understand evolutionary relationships, species distribution and animal behavior both at the site and elsewhere in the world.

Sample Topics and Concepts

- relationships
- change
- discovery
- connectedness
- history of research
- STEM/STEAM
- tools of a scientist
- paleontology study multidisciplinary
- geologic time
- comparative anatomy
- analysis of finds
- biogeography
- analogous traits
- convergence and divergence

Related Stories and Ideas

- Define the science of paleontology. What is its purpose and methods?
- List changes in the science of paleontology from the Smithsonian expeditions to today.
- Analyze the ways in which the science of paleontology keeps changing and what factors lead these changes.
- Propose new tools that might be used on the fossil collection to yield new information.
- Propose an assortment of scientists or scientific skills that are needed for an in-depth study of a new fossil.
- Compose a personal plan for investigating a favorite fossil.
- Relate how both discovery and analysis are equally important in paleontology.

Theme 2

The monument is a ‘window into the Pliocene past,’ a diverse array of fossils animals (such as the Hagerman Horse) and plants that allow scientists to reconstruct ancient landscapes, revealing relationships between species in lake, wetland, riverine, woodland and grassland environments.

Sample Topics and Concepts

- Pliocene
- evolutionary relationships
- Hagerman horse
- Idaho state fossil
- diversity of environments
- biostratigraphy
- paleoecology
- palynology
- comparative anatomy
- fossil versus living assemblage
- DNA
- climate change
- environmental progression

Related Stories and Ideas

- Identify and evaluate the Hagerman Horse’s place in the lineage of horses.
- Distinguish the Pliocene epoch from other epochs in the geologic time scale.
- Explain why it is important to understand a fossil as part of a community.
- What is the fossil history of Idaho?
- Reconstruct the environment despite missing fossil evidence.
- Compare the animals of Idaho today with those that were present in the Pliocene.
- Delineate evolutionary relationships between extinct and modern animals.
- Use modern animals to reconstruct animal behaviors of prehistoric animals.

Theme 3

Past and present geologic processes that formed the current landscape at Hagerman first preserved and are now exposing fossils, providing scientists, staff and visitors with the ability to view, study and understand Hagerman's remarkable fossil record.

Sample Topics and Concepts

- volcanism
- datable ash layers
- Snake River evolution
- connection to Yellowstone
- uplift and erosion
- Bonneville flood (melon gravel)
- Lake Idaho
- stratigraphy
- environmental processes
- geologic processes
- undercutting
- degree of slope

Related Stories and Ideas

- Interpret Idaho's geologic history in relation to the Hagerman Valley.
- Sketch the boundaries of ancient Lake Idaho over a modern day map.
- Solve the mystery of melon gravel and how it came to be.
- Use stratigraphy to date a Hagerman fossil.
- Explain how geologic processes preserve, destroy, and reveal fossils in the long term.
- Ascertain how fossils may become transported, modified, or buried, by water flow and/or wind.
- Use examples of modern animal adaptations to infer how a fossil animal moved or what it ate.

Theme 4

The fossil record at Hagerman provides an opportunity for visitors to explore the "life of a fossil": the chemical, physical and biologic processes that created the right environment for its fossilization, and the events leading up to its discovery.

Sample Topics and Concepts

- depositional environments
- animal behavior
- assemblage
- reconstruction
- trace fossils
- articulated
- geologic processes
- geography and politics
- fossilization process
- forensic science of the past
- coprolites
- taphonomy

Related Stories and Ideas

- Examine a set of related fossils and make conclusions about one animal's age at death, how it died, presence of disease, behavior and environment during its lifetime.
- Demonstrate how the various factors and variables affects the preservation of fossils.
- Assemble a collection of fossils (or fossil casts or photographs of fossils) into an animal by evaluating the bone's function and probable position.
- Apply research about fossils to associate the fossil with something that was alive.
- Speculate about the conditions present when the fossils were formed.

Theme 5

Fossils are fragile, and once destroyed, can never be replaced. When a fossil is removed without scientific documentation, paleontologists are unable to piece together the relationships between specific plants, animals and their environments. Stewardship of the fossils and respect for other monument resources is everyone's responsibility.

Sample Topics and Concepts

- context
- stewardship
- scientific documentation
- non-renewable
- location
- value
- integrity
- horses/domestic animals
- erosion
- hiking trails
- respect
- resource
- conservation
- poaching

Related Stories and Ideas

- Contrast the value of fossils identified by professionals, fossils found by amateurs and donated to museums with some documentation, and looted fossils.
- Define context as applied to fossils and the fossil record.
- Manage human-related impacts on fossils, unintentional or intentional, and identify the activities of visitors, scientists, contractors, or land managers that impact fossils.
- Propose a resolution to some of the major threats to fossil resources—those collected and already in museums and those still in the field.
- Express the concept of nonrenewable paleontological resources.

Theme 6

Hagerman Fossil Beds National Monument was set aside for scientific research because its Pliocene fossils provide the opportunity to understand an important portion of the history of life. The fossils include animals with ties to Eurasia, South America and Africa, as well as many that live in the Hagerman Valley today.

Sample Topics and Concepts

- migration
- evolution
- sea level changes
- mountain formation
- competition/extinction
- sister park
- Smithsonian and other universities/research organizations that study fossils
- adaptation
- climate change
- behavior
- names of modern animals
- geologic time
- other NPS fossil parks

Related Stories and Ideas

- Show how new science discoveries often lead to more questions.
- Define biogeography, which is what first suggested to Charles Darwin that species evolve from a common ancestor.
- Relate how the past is a key to the present (and vice versa). Consider deep time's contribution to understanding modern biology and environments.
- Map the range of current animals compared with their Pliocene counterparts.
- Diagram the time periods covered by NPS fossil parks.
- Posit connections between Sibilo and Hagerman.
- Identify other parks, museums, and places where fossils are studied.

Theme 7

People have lived in the Hagerman Valley for at least 10,000 years; their presence is recorded on the landscape in various ways.

Sample Topics and Concepts

- Native Americans
- irrigation
- Oregon trail
- hatcheries
- hunting and poaching
- exotic/invasive plants
- dams
- wind turbines
- fishing
- air pollution
- past and present farming techniques
- mining (gold and gravel)
- sheep and cattle ranching
- recreation

Related Stories and Ideas

- Describe how fossils have been used, studied, and understood in different ways.
- Relate the westward travel of people using the Oregon Trail to other migrations.
- Show the changes in land use of the Hagerman Valley and surrounding area.
- Suggest ways to mitigate human caused changes to the park lands.
- Distinguish between the work of archeologists and paleontologists to understand how each discipline interprets the changes that have occurred.
- What stories are missing from the park's human history and how can they be uncovered?

Theme 8

The Pliocene provides compelling evidence of the impact of climate change on animals and plants similar to those found in the world today. Hagerman Fossil Beds offer a venue for discussing the effects of past, current and future climate change.

Sample Topics and Concepts

- climate change
- species presence and distribution
- conservation
- disease
- economics of change in environments
- invasive species
- geologic and biologic processes
- plate tectonics
- solar radiation
- bore holes and cores
- glaciers
- stable isotopes
- radiation

Related Stories and Ideas

- Examine the changes to Hagerman during the Pliocene and contrast them with on-going changes in today's environment.
- Argue for how context in the fossil record assists in understanding today's changes.
- Explain how human alterations to the environment, in the broadest sense, can empower disease-carrying organisms.
- Compare past mass extinctions and their causes to today's extinctions.
- Design a vision of the Earth in the far future after reviewing trends including those in the fossil record.
- Study how a climate record has been assembled, and continues to grow based on multiple kinds of evidence.

Appendix D

Introduction to Director's Order 79: Integrity of Scientific and Scholarly Activities (Effective September 19, 2012)

**Staff will refer to the full document
when creating products for the public.**

I. Background and Purpose

A. Background

The Presidential Memorandum on Scientific Integrity dated March 9, 2009, and the Office of Science and Technology Policy (OSTP) 2010 Guidance Memorandum on Scientific Integrity call for ensuring the highest level of integrity in all aspects of the executive branch's involvement with scientific and technological processes.

The Secretary of the Interior issued Order No. 3305, Ensuring Scientific Integrity within the Department of the Interior, on September 29, 2010, directing the establishment of a Departmental Manual Chapter that sets forth principles of scientific and scholarly integrity and clarifies the roles and responsibilities of all Department of the Interior (DOI) employees in upholding these principles. The Departmental Manual chapter on Integrity of Scientific and Scholarly Activities became effective January 28, 2011.

This National Park Service Director's Order establishes specific NPS policies and procedures for implementing the Departmental Manual chapter and, in Section V, uses two new terms: Departmental Science Integrity Officer (DSIO) and Bureau Science Integrity Officer (BSIO).

B. Purpose

Scientific and scholarly activity is essential to the NPS mission. The results of scientific and scholarly activity are used to inform NPS policy and management decisions.

Such activity must therefore produce scientific and scholarly information that is robust, of the highest quality, and the result of rigorous scientific and scholarly processes. The NPS must, in accordance with Departmental policy, maintain the highest integrity of its scientific and scholarly activity.

This Director's Order establishes scientific and scholarly ethical standards, including a code of conduct and a process for the handling of alleged violations of that code. As the Departmental policy is comprehensive and specific as to standards and processes, this Director's Order:

- 1) implements the Departmental Policy,
- 2) describes specific additions and interpretations appropriate to the National Park Service, and
- 3) supersedes Section III of the 2008 NPS Interim Guidance Document governing Code of Conduct (Code of Scientific and Scholarly Conduct).

The Departmental Manual (305 DM 3: Integrity of Scientific and Scholarly Activities) includes definitions, directions, policy guidance, and processes that should be consulted together with this Director's Order. The requirements contained in 305 DM 3 and this Director's Order are in addition to and do not supersede the Standards of Ethical Conduct for Employees of the Executive Branch, DOI Supplemental Standards, any of the criminal conflict of interest statutes (18 U.S.C. 201-209), or law enforcement actions and/or investigations and inspections for regulatory compliance.